



Lesson plan: Introduction to Partial fractions

Note: Khanmigo needs your expertise to be excellent. Be sure to double check this lesson plan for accuracy!

Warm Up

Algebra talk: Display the expression $\frac{3x^2+5x+2}{x+1}$. Ask students to think about how they might simplify or decompose it. Give them a few minutes to consider their strategies. Once they signal readiness, select students to share their approaches. Encourage them to explain their reasoning and explore different methods. Record their explanations for all to see.

Classroom Activities

Activity 1: Decomposing Rational Expressions

Launch:

- Present the expression $\frac{7x^2+14x+5}{(x+1)(x+2)}$.
- Ask students to identify if it's a proper or improper rational expression.
- Discuss the goal of decomposing it into partial fractions.

Student Work:

- Group students in pairs.
- Task them with decomposing the expression into partial fractions.
- Encourage the use of substitution and equating coefficients.

Synthesis:

- Have pairs present their decomposed expressions.
- Verify results by simplifying back to the original expression.
- Discuss any discrepancies and common mistakes.